What is claimed is:

1. A chimeric ebola envelope protein comprising a functional ebola glycoprotein binding domain fused to a heterologous amino acid sequence.

2. The chimeric ebola envelope protein according to claim 1, wherein said protein contains a wild-type ebola glycoprotein binding domain.

3. The chimeric ebola envelope protein according to claim 1, wherein said heterologous amino acid sequence is an ebola glycoprotein sequence which is non-contiguous with the binding domain in the wild-type ebola.

4. The chimeric ebola envelope protein according to claim 1, wherein said chimeric protein comprises an ebola signal peptide and an ebola binding domain having a deletion in the native ebola region between the signal peptide and the binding domain.

5. The chimeric ebola envelope protein according to claim 4, wherein said chimeric protein comprises a deletion of about 1 to 50 amino acids between the signal peptide and the binding domain.

6. The chimeric ebola envelope protein according to any of claims 1 to 3 or claim 5, wherein said chimeric comprises a deletion of the complete ebola signal peptide or a portion thereof.

7. The chimeric ebola envelope protein according to any of claims 1 to 3, claim 5 or claim 6, wherein said deletion of all or a portion of the carboxy terminus of the signal peptide comprises a deletion of from about 1 to 30 amino acids.

8. The chimeric ebola envelope protein according to any of claims 1 to 7, wherein said chimeric ebola envelope comprises a deletion of all or a portion of the ebola transmembrane.

9. The chimeric ebola envelope protein according to claims 8, wherein the deletion of the ebola transmembrane comprises deletion of about 1 to 23 amino acids.

10. The chimeric ebola envelope protein according to any of claims 1 to 9, wherein said chimeric ebola envelope comprises a deletion of all or a portion of the ebola cytoplasmic domain.

11. The chimeric ebola envelope protein according to claim 10, wherein the deletion of the ebola cytoplasmic domain comprises about 1 to 3 amino acids.

12. The chimeric ebola envelope protein according to any of claims 1 to 7 or claim 10 to 11, said chimeric ebola envelope comprising a transmembrane domain.

13. The chimeric ebola envelope protein according to claim 12, wherein the transmembrane domain is from a heterologous protein.

14. The chimeric ebola envelope protein according to any of claims 1 to 9 or claims 12 to 13, wherein said protein further comprises a cytoplasmic domain.

15. The chimeric ebola envelope protein according to any of claims 1 to 12, wherein said heterologous amino acid sequence from a non-ebola protein.

16. The chimeric ebola envelope protein according to claim 15, wherein the heterologous amino acid sequence is selected from the group consisting of a

Vesicular Stomatitis Virus protein; a human immunodeficiency virus transmembrane domain; a murine leukemia virus; and a Lymphocytic Choriomeningitis virus.

17. The chimeric ebola envelope protein according to claim 1, selected from the group consisting of:

(a) NTDL1, amino acids 1 to 366 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(b) NTDL2, amino acids 1 to 366 fused to amino acids 502 to 676 of the ebola glycoprotein. SEQ ID NO:1;

(c) NTDL3, amino acids 1 to 370 fused to amino acids 492 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(d) NTDL4, amino acids 1 to 311 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(e) NTLD5, amino acids 1 to 287 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(f) NTDL6, amino acids 1 to 279 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(g) NTDL7, amino acids 1 to 267 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(h) NTDL8, amino acids 1 to 258 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(i) NTDL9, amino acids 1 to 232 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(j) NTDL11, amino acids 1 to 231 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(k) ΔN, amino acids 1 to 31 fused to 172 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(l) EboΔ5S, amino acids 1 to 220 of the ebola glycoprotein, SEQ ID NO:2;

(m) EboΔ6S, amino acids 1 to 361 of the ebola glycoprotein, SEQ ID NO:2;

(n) EboΔ7S, amino acids 1 to 628 of the ebola glycoprotein, SEQ ID NO:2; and

(o) EboΔ8S, amino acids 1 to 311 fused to amino acids 497 to 664 of the ebola glycoprotein, SEQ ID NO:2;

(p) V/TC, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 463 to 511 of SEQ ID NO:3;

(q) –2aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 465 to 511 of SEQ ID NO:3;

(r) +2aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 461 to 511 of SEQ ID NO:3;

(s) +16aa, amino acids 1 to 672 of SEQ ID NO:1 fused amino acids 447 to 511 of SEQ ID NO:3;

(t) +23aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 440 to 511 of SEQ ID NO:3;

(u) +42aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 421 to 511 of SEQ ID NO:3;

(v) V/C, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 483 to 511 of SEQ ID NO:3;

(w) V/2C, amino acids 1 to 676 of SEQ ID NO:1 fused to amino acids 483 to 511 of SEQ ID NO:3;

(x) V/T, amino acids 1 to 650 of SEQ ID NO:1 fused to amino acids 463 to 482 of SEQ ID NO:3;

(y) ΔInt, amino acids 1 to 629 of SEQ ID NO:1 fused to amino acids sequences 463 to 511 of SEQ ID NO:3;

(z) ΔImm, amino acids 1 to 563 of SEQ ID NO:1 fused to amino acids 463 to 511 of SEQ ID NO:3;

(aa) VE, amino acids 180 to 350 of SEQ ID NO:1 in the VSV-G envelope, SEQ ID NO:3.

(ab) H/TC, amino acids 1 to 650 of SEQ ID NO:1 fused to amino acids 661 to 856, SEQ ID NO:8;

(ac) M/C, amino acids 1 to 650 of SEQ ID NO:1 fused to a VSV-G transmembrane domain, 465 to 482 of SEQ ID NO:3, and an MLV-GP cytoplasmic domain, amino acids 634 to 649 of SEQ ID NO:6;

(ad) M/CR, amino acids 1 to 650 of SEQ ID NO:1 fused to a VSV-G transmembrane domain, 465 to 482 of SEQ ID NO:3, an MLV-GP cytoplasmic domain, amino acids 634 to 649 of SEQ ID NO:6, and an R peptide of MLV-GP, amino acids 650 to 665 of MLV-GP, SEQ ID NO:6;

(ae) L/TC, amino acids 1 to 650 of SEQ ID NO:1, fused to amino acids 439 to 498 of LCMV-GP, SEQ ID NO:9.

18. A nucleic acid molecule encoding a chimeric ebola protein according to any of claims 1 to 17.

19. The molecule according to claim 18, wherein said molecule is a plasmid.

20. The molecule according to claim 18, wherein said molecule is a viral vector.

21. The molecule according to claim 18, wherein said molecule is an adenoviral vector.

22. A host cell comprising a protein according to any of claims 1 to 17 or a molecule according to any of claims 18 to 21.

23. A method of inducing an immune response against ebola comprising the step of delivering to a subject a composition comprising a protein according to any of claims 1 to 17 or a molecule according to any of claims 18 to 21.

24. The method according to claim 23, wherein said composition is delivered intramuscularly.

25. The method according to claim 23, wherein said composition is delivered orally.

26. A recombinant virus having a chimeric ebola envelope protein according to any of claims 1 to 17 and a minigene.

27. The recombinant virus according to claim 26, wherein said minigene is a lentivirus minigene comprising Rev response element (RRE) sequences.

28. The recombinant virus according to claim 26, wherein said lentivirus sequences are selected from the group consisting of a human immunodeficiency virus (HIV) vector, simian immunodeficiency virus (SIV) vector, caprine arthritis and encephalitis virus, equine infectious anemia virus, visna virus, and feline immunodeficiency virus (FIV) vector.

29. The recombinant virus according to claim 28, wherein said lentivirus is an HIV.

30. The recombinant virus according to claim 28, wherein said 5' LTR sequences are self-inactivating.

31. The recombinant virus according to claim 30, wherein said 5' LTR sequences contain a deletion in the U3 region.

32. The recombinant virus according to claim 28, wherein said 3' LTR sequences are self-inactivating.

33. The recombinant virus according to claim 32, wherein said 3' LTR sequences contain a deletion in the U3 region.

34. A host cell containing a recombinant virus according to any of claims 26 to 33.

35. A method of treating a patient with a selected molecule, said method comprising the step of transducing the cells of the patient with the recombinant virus according to any of claims 26 to 33.

36. The method according to claim 35, wherein the cells are selected from among the lung cells, dendritic cells and macrophages.

37. The method according to claim 35, wherein said recombinant virus is administered directly to the patient.

38. The method according to claim 36, wherein the transgene is a CFTR gene and said recombinant virus is administered intratracheally.

39. The method according to claim 35, wherein the cells of the patient are transduced ex vivo, further comprising the step of re-infusing the transduced cells into the patient.

40. The method according to claim 39, wherein the patient is a cancer patient.

41. The method according to claim 39, wherein the transduced cells are dendritic cells.

42. The method according to claim 405, wherein the transduced cells are macrophages.

43. Use of a recombinant virus according to any of claims 26 to 33 in preparing a medicament.

44. A method of delivering a molecule to the apical cells of the lung, said method comprising the step of administering a recombinant virus according to any of claims 26 to 33 intratracheally.

45. An immunogenic composition comprising a DNA molecule encoding a chimeric ebola envelope protein according to any of claims 1 to 17 under the control of sequences which direct expression thereof in a host cell and a carrier.

46. The immunogenic composition according to claim 45 comprising a recombinant virus comprising the DNA molecule.

47. An immunogenic composition comprising an ebola envelope protein and a carrier, wherein said composition comprises an ebola envelope protein according to any of claims 1 to 17.

48. The immunogenic composition according to claim 47, wherein the immunogenic composition further comprises a wild-type ebola G or S protein.